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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/834,040	04/12/2001	DeWitt C. Seward IV	301493.1001-001	1765

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EXAMINER

KERVEROS, JAMES C

ART UNIT	PAPER NUMBER
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2133

DATE MAILED: 11/05/2003

15

Please find below and/or attached an Office communication concerning this application or proceeding.

3

Office Action Summary

Application No.

09/834,040

Applicant(s)

SEWARD ET AL.

Examiner

James C Kerveros

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) 1-4 and 9-39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Election/Restrictions

Applicant's election without traverse of Group I, Species B, claims 5-8 in Paper No. 10 is acknowledged. Claims 1-4 and 9-39 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 10. The Applicant is required to cancel claims 1-4 and 9-39 in response to this Office Action or when the application is in condition for allowance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 5, 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Davidov et al. (US 5781018).

Regarding Claim 5, Davidov discloses an apparatus and method for mapping the electrical characteristics over a surface with a microwave microscope, comprising:

A microwave source (56, Figure 6).

An antenna (microwave probe 30, Figure 6) comprising a waveguide 12 and a resonant slit 34, also Figures 2-4, having a plurality of resonant modes coupled to the microwave source

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56. The antenna generates an electromagnetic signal with polarization components, Electric-E and Magnetic-H fields, originating from the source 56, traveling through the E-H tuner 64, propagating through the waveguide 12 and exiting the resonant slit 34.

An antenna (microwave probe 30) is spaced apart from a material 38, for example, a semiconductor wafer, mounted on a movable X-Y stage, as shown in Figures 3, 4 and 6, for measuring the dielectric property of the material. The slit 34 of the probe 30 is spaced from the material with an air gap, which is defined as the probe separation by few micrometers over the sample 38 mounted onto the X-Y stage, while the stage 54 moves the sample 38 beneath the probe 30 with a constant separation of a few micrometers, (column 6, line 2-5).

A microwave detector 66 receives reflected signals from the sample, which is transmitted to a computer 68, where the detector voltage is sensitive to variations of the amplitude of the reflected signal and to phase variations. The amplitude gives information about the resistivity while the phase yields information about the dielectric constant, (column 5, line 55-65).

Regarding Claim 7, with respect to the claimed air gap spacing within 2.5λ of the sensor, Davidov defines an air gap between the antenna and the material to "be limited to not substantially more $\lambda/10$ ", where λ is the free-space microwave wavelength λ_0 reduced to account for the dielectric constant of the spacing (Column 7, line 41-46).

Regarding Claim 8, Davidov discloses an antenna comprising a flat rectangle, such as a parallel-plate antenna, for transmitting and receiving microwave electromagnetic waves on a material (column 2, line 5-7).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davidov et al. (US 5781018) in view of Michaels in (US 5371505).

Regarding Claim 6, Davidov does not disclose a radome defining the air gap between the antenna and the material. A radome is well known protective housing used to house radar antenna, as defined by Webster's Dictionary. Further, Michaels in (US 5371505) discloses a radome 10, which creates an air gap between an antenna 12 housed inside the radome and a material (reflector 14), as shown Figure 1. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to house the antenna of Davidov, as taught by Michaels, for the purpose of maintaining a dielectric air gap between the material and the antenna, since the spacing of material from the radome wall is successively changing where the received data for the material is used to derive signal transmission characteristics.

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Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James C Kerveros whose telephone number is (703) 305-1081. The examiner can normally be reached on 9:00 AM TO 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (703) 305-9595. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4900.

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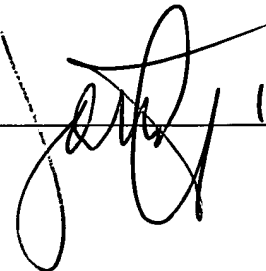
James C Kerveros
Examiner
Art Unit 2858


U.S. PATENT OFFICE
Examiner's Fax: (703) 746-4461
Email: james.kerveros@uspto.gov

Date: 1 November 2003

File: Final Rejection

By:

 11/1/2003


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SUPERVISORY PATENT EXAMINER
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